

Purnendu K (Sandy) Dasgupta

Brief Vitae, December, 2002

EDUCATION

1977 Louisiana State University, Baton Rouge, Ph.D. in Analytical Chemistry with minors in Inorganic Chemistry and Electrical Engineering.

1976 Bell and Howell Diploma in Advanced Electronics, DeVry Institute of Technology, Chicago, IL.

EXPERIENCE

1992- Paul Whitfield Horn Professor, Department of Chemistry, Texas Tech University

1978-1981, University of California, Davis, Texas Tech University

HONORS AND AWARDS

National Science Talent Search Scholar, Government of India, 1965-1968.

Atomic Energy Commission of India Graduate Fellow in Chemistry, 1969-1970.

Government of India Doctoral Research Fellow, 1972.

Frank R. Blood Award for best annual publication, Society of Toxicology and Pharmacology, 1981.

Institute Medal, Institute of Industrial Sciences, University of Tokyo, 1987.

P. A. Traylor Creativity Award, Analytical Sciences, Dow Chemical Company, Midland, MI, 1989.

Barney E. Rushing, Jr. 1990 Faculty Distinguished Research Award. Texas Tech University, Dads and Moms Association, 1991.

A. A. Benedetti-Pichler Memorial Award for contributions to Microchemistry, American Microchemical Society, 1998.

APPOINTMENTS

Governor Appointee: Texas Council of Environmental Technology (2000-)

Governor Appointee: Texas Emission Reductions Program Advisory Board (2001-)

Chairman, Subcommittee on Sulfur Compounds, Intersociety Committee on Methods for Air Sampling and Analysis, 1986- .

Consultant: Dow Chemical Company 1986- . Dionex Corporation 1987- . Shell Development Company 1988-; EG & G Chandler Engineering 1989. W. R. Grace & Co. 1990; Eastman Chemical, 1993, Eastman Kodak, 1994, Union Carbide Corp., 1994.

Associate Editor, Atmospheric Environment, 1990-2001 ; Editorial Advisory Board Member, Talanta. 1990-2001 ; Editorial Board Member, Analytica Chimica Acta, 1994- ; Journal of Process Control and Quality, 1995-; Journal of Microcolumn Separations, 1996- ; Analytical Chemistry A-Pages, 1997-1999.

PUBLICATIONS

Over 250 peer reviewed publications in primary journals, 15 US Patents.

GRANTS

Over 12 million dollars in Federal (DARPA, DOE, EPA, NSF, ONR SBCCOM), State (Texas) and Private (EPRI, Dow, Shell, Dionex, EG &G, Arizona Instruments and others) grants, 1979-date.

RESEARCH INTERESTS

Fluid flow in thin films, Thin film specific chemical sensors. Measurement of trace atmospheric species and atmospheric chemistry, Air Pollution Toxicology, Automated intelligent analyzers, Microscale analytical systems, Automated process analysis in the chemical industry, Novel approaches to ionic chromatography and electrophoresis.

TRAINING OF STUDENTS

Professor Dasgupta is regarded as one of the most demanding faculty members in the Department. He is selective in accepting students. Nevertheless, in his two decade long career at TTU, Professor Dasgupta has co-authored research papers with 11 different undergraduate students, graduated 11 MS and 19 PhD students and has worked with over 40 postdoctoral fellows with all across the world. Many of them have brought their own support, including Fulbright fellowships. He is a prolific collaborator; he has worked with over 25 different research groups across the world.

RECENT PUBLICATIONS

A detailed publication list and other details are available on the web

(<http://www.ttu.edu/~chem/faculty/dasgupta/dasgupta.html>) Selected papers and book chapters are cited below.

Automated Measurement of Atmospheric Particle Composition. P. K. Dasgupta and S. K. Poruthoor, Sampling and Sample Preparation Techniques for Field and Laboratory, Pawliszyn, J. Ed., Wilson and Wilson's Comprehensive Analytical Chemistry Series, Vol. XXXVII, Elsevier, 2002. pp 161-276.

Automated Diffusion Based Collection and Measurement of Atmospheric Trace Gases. P. K. Dasgupta, Sampling and Sample Preparation Techniques for Field and Laboratory, Pawliszyn, J. Ed., Wilson and Wilson's Comprehensive Analytical Chemistry Series, Vol. XXXVII, Elsevier, 2002. pp 97-160.

A portable flow injection analyzer with liquid-core waveguide based fluorescence, luminescence, and long path length absorbance detector. Q. Li, K. A. Morris, P. K. Dasgupta, I. M. Raimundo, Jr., H. Temkin, *Anal. Chim. Acta* (in press)

Hybrid Microfabricated Device for Field Measurement of Atmospheric Sulfur Dioxide, S.-I. Ohira, K. Toda, S.-I. Ikebe, P. K. Dasgupta, *Anal. Chem.* **74**, 5890-5896 (2002).

Field Measurement of Acid Gases and Soluble Anions in Atmospheric Particulate Matter using a Parallel Plate Wet Denuder and an Alternating Filter-Based Automated Analysis System. C. B. Boring, R. Al-Horr, Z. Genfa, P. K. Dasgupta, M. W. Martin and W. F. Smith. *Anal. Chem.* **74**, 1256-1268 (2002).

A Microfabricated Amperometric Moisture Sensor, X.-L. Su, X. Xingguo, T. Dallas, S. Gangopadhyay, H. Temkin, X. Wang, R. Walulu, J. Li and P. K. Dasgupta, *Talanta*, **56**, 309-321 (2002).

Measurement of Atmospheric Hydrogen Sulfide by Continuous Flow Fluorometry, K. Toda, P. K. Dasgupta, J. Li, G. A. Tarver, G. M. Zarus, S.-i. Ohira, *Anal. Sci.*, 17 Supplement, i407-i410 (2001).

Fluorometric Field Instrument for Continuous Measurement of Atmospheric Hydrogen Sulfide, K. Toda, P. K. Dasgupta, J. Li, G. A. Tarver, G. M. Zarus, *Anal. Chem.* **73**, 5716-5724 (2001).

A Miniaturized Liquid Core Waveguide-Capillary Electrophoresis System with Flow Injection Sample Introduction and Fluorimetric Detection using Light-Emitting Diodes. S.-L. Wang, X.-J. Huang, Z.-L. Fang, and P. K. Dasgupta, *Anal. Chem.* **73**, 4545-4549 (2001).

Measurement of Gaseous Hydrogen Peroxide with a Liquid Core Waveguide Chemiluminescence Detector. J. Li and P. K. Dasgupta, *Anal. Chim. Acta*, **442**, 63-70 (2001)

Measurement of Atmospheric Formaldehyde with a Diffusion Scrubber and Light emitting Diode-Liquid Core Waveguide based Fluorometry, J. Li, P. K. Dasgupta, Z. Genfa and M. A. Hutterli, *Field Analytical Chemistry and Technology* **5**, 2-11 (2001).

Continuous Automated Measurement of Hexavalent Chromium in Airborne Particulate Matter, Gautam Samanta, C. Bradley Boring and Purnendu K. Dasgupta, *Anal. Chem.* **73**, 2034-2040 (2001).

Measurement of Nitrogen Dioxide and Nitrous Acid Using Gas-Permeable Liquid Core Waveguides. M. R. Milani and P. K. Dasgupta, *Anal. Chim. Acta* **431**, 169-180 (2001).

Measurement of Atmospheric Hydrogen Peroxide and Hydroxymethyl Hydroperoxide with a Diffusion Scrubber and Light Emitting Diode -Liquid Core Waveguide Based Fluorometry. J. Li and P. K. Dasgupta, *Anal. Chem.* **72**, 5338-5347 (2000)

A Continuous Film - Recirculable Drop Gas-Liquid Equilibration Device. Measurement of Trace Gaseous Ammonia. Z. Genfa and P. K. Dasgupta, *Anal. Chem.* **72**, 3165-3170 (2000).

Determination of Hexavalent Chromium in Leather Extracts by the Diphenylcarbazide (IUC-18) Procedure: Pitfalls and Refinements. S. Jambunathan and P. K. Dasgupta. *J. Soc. Leather Technol. Chem.* **84**, 63-73 (2000).

ACHIEVEMENTS.

Based on the impact index of published papers, the ISI Journal *SCIENCE WATCH* rated the Texas Tech University research program as second in the world, next only to an ivy league school. Since 70% of the TTU papers considered came from the Dasgupta group, he is especially proud of this achievement. |

In 2001, Professor Dasgupta was the invited speaker for the William J. Probst lecture series at Southern Illinois University. In the immediate past years, the Probst lecturers have included Allen J. Bard, Janet Osteryoung, Ronald Breslow, Fred Basolo, Alfred Bader and Roald Hoffman.